

ABSTRACT

An object of the present invention is to provide a pre-formation apparatus capable of making a pre-formation
5 with highly dimensional accuracy between a film three-dimensional shape and an original design on a film, a pre-formation method and a main formation method utilizing the apparatus, and a printed film therefor.

The pre-formation apparatus includes: an upper and
10 a lower clamp members 68j which have a through hole 68a and sandwich a printed film, and a heater 70 movable to and away from a pre-forming section F for heating the printed film. A pre-forming mold 80 which pre-forms the printed film 4 via the through hole 68a, and a film die
15 punch for punching after the pre-formation are movable to and away from the pre-forming section F. The pre-forming mold 80 includes a male mold which contacts the plasticized printed film and a female mold which mates with the male mold for a formation under vacuum. The apparatus further
20 includes a pitch detecting section facing the pre-forming section F within a pitch of the printed film 4 in a film flow direction X for detection of a film mark M1.